Trend Study 11A-5-00

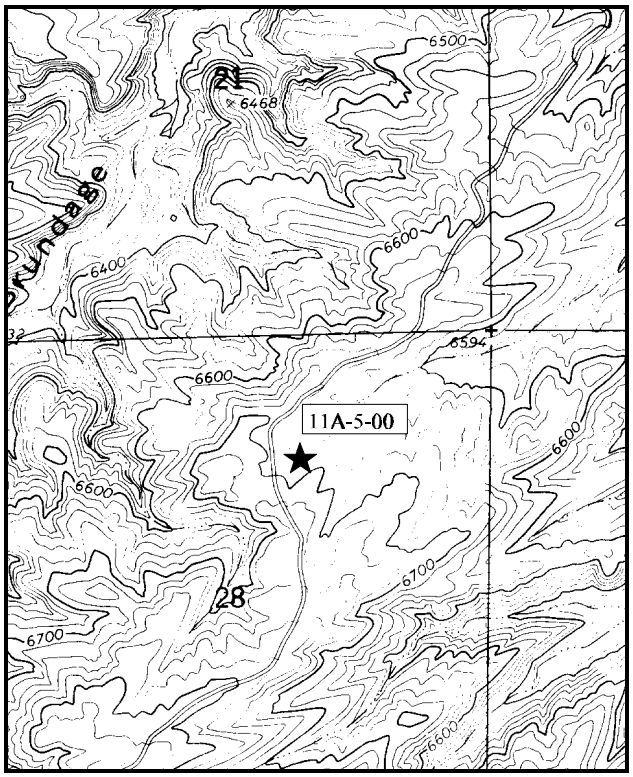
Study site name: Nutters Canyon . Range type: Black Sagebrush .

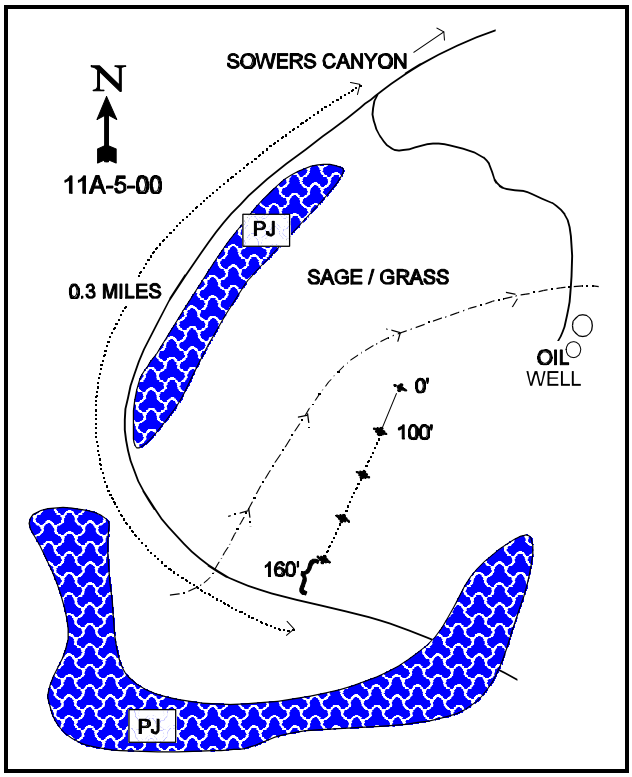
Compass bearing: frequency baseline 206°M .

Footmark (first frame placement) 5 feet, footmarks (frequency belts) line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft). Belt 3 rebar @ 2ft.

LOCATION DESCRIPTION

From Highway U.S. 40 near Bridgeland, turn south and go up the Anthro Mountain-Sower Canyon Road 8.6 miles to the turnoff to Nutters Ridge by an old cabin and an oil well. Turn left and go 4.5 miles up the ridge on the main road (stay left at major forks) to another fork to an oil well. Bear right and continue 0.3 miles to where the road curves and crosses a small drainage. Stop before you drive back into the P-J and walk down into the sage opening about 180 feet to the 400-foot baseline stake. The 0-foot baseline stake is marked with browse tag #9035. The study is marked by green fenceposts approximately 18 inches tall.





Map Name: Duchesne SE

Diagrammatic Sketch

Township 5S , Range 4W , Section 28

UTM 4430200.986 N, 556570.209 E

DISCUSSION

Trend Study No. 11A-5 (15-5)

The Nutters Canyon trend study is located above Nutters Canyon in the middle of a sagebrush/grass swale surrounded by pinyon-juniper woodland. Natural sagebrush/grass openings are found within the heads of most drainages. This swale drains to the east-northeast and has a north aspect. The study has a slope of 3-5% at an elevation of approximately 6,600 feet. There are roads along most of the main ridges, plus spur roads going to numerous oil wells within the area. Cattle grazing is of relatively minor use on this Ute Reservation land. The area receives light to moderate use from deer, elk and antelope. A pellet group transect read along the baseline in 2000 estimates 5 deer days use/acre(12 ddu/ha) and 40 elk days use/acre (99 edu/ha).

Soils at the site are loamy in texture and slightly alkaline (pH of 7.4). Soil depth is moderate with an estimated effective rooting depth of nearly 18 inches. Rocks are fairly uniformly distributed throughout the profile as illustrated by the stoniness index estimated from penetrometer readings. Erosion appears light at this time, although vegetation and litter cover are not particularly abundant. Pavement is high at 44% in 2000, with the bare soil cover value low, at less than 10%. Pedestaling is slight around the base of sagebrush plants. Phosphorus is low at 6.6 ppm as values less than 10 ppm may limit normal plant growth and development.

The sagebrush is classified as black sagebrush, although there appears to be some hybridization between mountain big sagebrush and black sagebrush. Along the edge of the pinyon-juniper type and along the drainage bottom, there are shrubs more characteristic of mountain big sagebrush. Black sagebrush provided 16% average cover in both 1995 and 2000 or over 90% of the total browse cover in both years. The population had an estimated density of 12,100 plants/acre in 2000, with most of the population being either mature (58%) or decadent (39%). The decadency rate is an increase from 12% in 1995, and is most likely due to the drought experienced statewide in 2000. Nearly one-third (31%) of the decadent plants were classified as dying in 2000, representing about 1,460 plants/acre that could be lost from the population in the future. Recruitment from young plants is currently low at 3%, a decrease from 17% in 1995 and 42% in 1988. This current low recruitment level is not adequate to replace those individuals in the population classified as dying. A return to normal precipitation patterns could increase recruitment and decrease percent decadency. Biotic potential (proportion of seedlings to the population) remains low at 2%. Black sagebrush shows moderate to heavy hedging with 32% and 35% of the plants classified as heavily hedged in 1995 and 2000 respectively. The proportion of the population displaying poor vigor increased from 5% in both 1988 and 1995, to 13% in 2000. Once again, this increase is most likely drought caused and should improve with normal precipitation. Leader growth on black sagebrush was minimal in 2000. Other browse on the site include: winterfat, shadscale, fringed sagebrush, stickyleaf low rabbitbrush and snakeweed. These species have low densities and combine to provide just over 1% average cover.

The herbaceous understory is dominated by perennial grasses. Blue grama, bottlebrush squirreltail and needle-and-thread grass were nearly equal in frequency and cover in 2000. Each of these species increased in average cover and nested frequency in 2000, except for needle-and-thread which increased in average cover but significantly decreased in nested frequency. Other perennial species sampled at the site but occur infrequently include: thickspike wheatgrass, galleta, Indian ricegrass and Sandberg bluegrass. As a group, perennial grasses slightly decreased in sum of nested frequency in 2000. However, with the extremely dry conditions, this decrease was not significant.

Forbs have provided very little vegetative cover on this site during all sampling periods and especially in 2000. Due to drought in 2000, forbs are nearly non-existent with only four species being sampled. Currently (‘00), all forbs combined provide only 1/100 of 1% average cover. Sum of nested frequency for forbs declined from 368 in 1995 to only 6 in 2000, with over half of this decline being from perennial species.

1988 APPARENT TREND ASSESSMENT

Grasses provide considerable litter cover at this site (44%). Decomposition is relatively slow with the soil containing very little organic matter. Pavement contributes 33% of the ground cover. With the 11% vegetative cover provided by the grasses, total ground cover is adequate with only 11% of the surface exposed as bare soil.

1995 TREND ASSESSMENT

Percent bare ground is low, while pavement cover is extremely high. Although pavement does protect from rain drop impact, it also can accelerate runoff across the ground. Percent bare ground has decreased and pavement cover has increased. This increase in pavement could have been a differing interpretation of what pavement is on the site, as there is little current evidence of soil movement. The majority of the soil loss most likely occurred in the past. As a result, soil trend is stable. The black sagebrush population appears to be shifting to a more mature population at this time with 8% of the population was classified as dead. Hedging is moderate to heavy with height staying nearly the same and the crown measurements increasing by 6 inches. There is low biotic potential which is due to drought conditions over the past several years. Other increaser species such as broom snakeweed, sticky leaf rabbitbrush and fringed sagebrush appear to have stable populations with low densities. Browse trend is stable. Sum of nested frequency for perennial grasses has greatly decreased while there was a great increase in perennial forb sum of nested frequency. Many forbs are annual species and account for high amounts of cover and nested frequency values. Because of the large decrease in perennial grass, herbaceous understory trend is slightly downward.

TREND ASSESSMENT
soil - stable (3)
browse - stable (3)
herbaceous understory - slightly downward (2)

2000 TREND ASSESSMENT

Trend for soil is stable. Ground cover characteristics are similar to previous levels, with vegetation and bare ground slightly increasing and litter and pavement cover slightly decreasing. Erosion still appears to be minimal even with a large decrease in the abundance of forbs in 2000. The ratio of protective ground cover to bare soil decreased, however it remains adequate to minimize erosion at the present time. Trend for browse is slightly down. Black sagebrush shows increases in percent decadency and poor vigor and a decrease in recruitment from young plants. The proportion of decadent plants classified as dying is currently about 3½ times higher than the number of young plants in the population. These negative trends for black sagebrush are mostly drought related and should improve with normal precipitation. Trend for the herbaceous understory is slightly down overall due to drought. Perennial grasses slightly decreased in sum of nested frequency in 2000, while perennial forbs drastically decreased in sum of nested frequency.

TREND ASSESSMENT
soil - stable (3)
browse - slightly down (2)
herbaceous understory - slightly down (2)

HERBACEOUS TRENDS --
Herd unit 11A, Study no: 5

Type	Species	Nested Frequency			Quadrat Frequency			Average Cover %	
		'88	'95	'00	'88	'95	'00	'95	'00
G	Agropyron dasystachyum	$_{a}$-	$_{b}$17	$_{b}$20	-	7	10	.16	.05
G	Bouteloua gracilis	$_{b}$209	$_{a}$139	$_{a}$154	76	53	61	1.20	3.24
G	Hilaria jamesii	$_{a}$-	$_{b}$18	$_{b}$14	-	9	5	.24	.07
G	Oryzopsis hymenoides	10	8	6	6	5	4	.06	.07
G	Poa secunda	14	17	7	5	8	4	.11	.04
G	Sitanion hystrix	$_{b}$221	$_{a}$157	$_{a}$165	86	65	67	2.01	3.34
G	Stipa comata	$_{c}$281	$_{b}$174	$_{a}$136	93	70	48	2.88	4.56
Total for Annual Grasses		0	0	0	0	0	0	0	0
Total for Perennial Grasses		735	530	502	266	217	199	6.67	11.38
Total for Grasses		735	530	502	266	217	199	6.67	11.38
F	Arabis perennans	$_{a}$-	$_{b}$18	$_{a}$-	-	8	-	.06	-
F	Astragalus purshii	$_{a}$-	$_{b}$58	$_{a}$-	-	28	-	.19	-
F	Astragalus spp.	$_{a}$7	$_{b}$44	$_{a}$-	2	21	-	.15	-
F	Chenopodium fremontii (a)	-	$_{b}$35	$_{a}$-	-	18	-	.23	-
F	Chenopodium leptophyllum (a)	-	3	-	-	2	-	.01	-
F	Cryptantha spp.	-	1	-	-	1	-	.00	-
F	Descurainia pinnata (a)	-	$_{b}$48	$_{a}$-	-	21	-	.33	-
F	Eriogonum cernuum (a)	-	4	-	-	2	-	.01	-
F	Erigeron pumilus	-	3	-	-	1	-	.00	-
F	Lappula occidentalis (a)	-	$_{b}$49	$_{a}$-	-	20	-	.20	-
F	Machaeranthera canescens	1	3	-	1	2	-	.01	-
F	Navarretia intertexta (a)	-	$_{b}$32	$_{a}$-	-	19	-	.12	-
F	Orobanche spp.	-	1	-	-	1	-	.00	-
F	Phlox longifolia	$_{a}$-	$_{b}$38	$_{a}$-	-	15	-	.07	-
F	Schoencrambe linifolia	7	10	4	2	7	2	.03	.01
F	Sphaeralcea coccinea	$_{b}$32	$_{b}$20	$_{a}$2	18	11	2	.13	.01
F	Taraxacum officinale	-	1	-	-	1	-	.00	-
Total for Annual Forbs		0	171	0	0	82	0	0.91	0
Total for Perennial Forbs		47	197	6	23	96	4	0.68	0.01
Total for Forbs		47	368	6	23	178	4	1.60	0.01

Values with different subscript letters are significantly different at % = 0.10

BROWSE TRENDS --
Herd unit 11A, Study no: 5

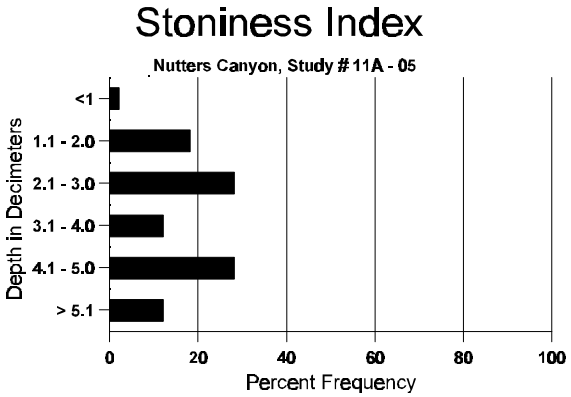
Type	Species	Strip Frequency '95	Strip Frequency '00	Average Cover % '95	Average Cover % '00
B	Artemisia frigida	6	5	.01	.04
B	Artemisia nova	92	95	16.18	16.71
B	Artemisia tridentata vaseyana	1	0	-	-
B	Atriplex confertifolia	12	8	1.32	.71
B	Ceratoides lanata	10	6	.06	.00
B	Chrysothamnus nauseosus graveolens	3	2	.07	.00
B	Chrysothamnus viscidiflorus viscidiflorus	6	7	.01	.21
B	Gutierrezia sarothrae	10	23	.08	.28
B	Opuntia spp.	3	2	.00	.03
B	Pediocactus simpsonii	2	10	.00	.04
B	Pinus edulis	0	4	-	-
Total for Browse		145	162	17.76	18.05

BASIC COVER --
Herd unit 11A, Study no: 5

Cover Type	Nested Frequency '95	Nested Frequency '00	Average Cover % '88	Average Cover % '95	Average Cover % '00
Vegetation	329	318	11.00	25.97	29.31
Rock	84	123	.50	.84	2.42
Pavement	357	362	33.00	47.27	44.26
Litter	371	341	44.50	25.42	19.22
Cryptogams	15	165	0	.05	2.71
Bare Ground	188	270	11.00	5.48	9.82

SOIL ANALYSIS DATA --
Herd Unit 11A, Study # 5, Study Name: Nutters Canyon

Effective rooting depth (inches)	Temp °F (depth)	pH	%sand	%silt	%clay	%0M	PPM P	PPM K	dS/m
17.83	60.8 (18.11)	7.4	44.9	33.8	21.3	2.3	6.6	220.8	0.9



PELLET GROUP FREQUENCY --
Herd unit 11A, Study no: 5

Type	Quadrat Frequency '95	Quadrat Frequency '00	Pellet Transect: Pellet Groups per Acre ⁄00	Pellet Transect: Days Use per Acre (ha) ⁄00
Rabbit	6	10	731	N/A
Elk	15	24	522	40 (99)
Deer	17	9	69	5 (13)

BROWSE CHARACTERISTICS --
Herd unit 11A, Study no: 5

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Artemisia frigida																		
S	88	18	-	-	-	-	-	-	-	-	18	-	-	-	1200			18
	95	2	-	-	-	-	-	-	-	-	2	-	-	-	40			2
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
Y	88	23	-	-	-	-	-	-	-	-	22	-	1	-	1533			23
	95	7	-	-	-	-	-	-	-	-	7	-	-	-	140			7
	00	3	-	-	-	-	-	-	-	-	3	-	-	-	60			3
M	88	5	6	3	-	-	-	-	-	-	13	-	1	-	933	7	11	14
	95	5	-	-	-	-	-	-	-	-	5	-	-	-	100	12	10	5
	00	7	-	-	-	-	-	-	-	-	7	-	-	-	140	3	5	7
D	88	-	-	1	-	-	-	-	-	-	1	-	-	-	66			1
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'88	16%	11%	05%	
'95	00%	00%	00%	-91%
'00	00%	00%	00%	-17%

Total Plants/Acre (excluding Dead & Seedlings)			Dec:	
	'88	2532		3%
	'95	240		0%
	'00	200		0%

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Artemisia nova																		
S	88	76	-	-	1	-	-	11	-	-	87	-	1	-	5866			88
	95	16	-	-	-	-	-	-	-	-	16	-	-	-	320			16
	00	10	-	-	-	-	-	-	-	-	9	-	-	-	200			10
Y	88	133	1	-	-	-	-	-	-	-	132	-	2	-	8933			134
	95	28	48	13	1	-	-	-	-	-	90	-	-	-	1800			90
	00	18	2	-	-	-	1	-	-	-	21	-	-	-	420			21
M	88	102	32	1	-	-	-	-	-	-	132	-	3	-	9000	10	12	135
	95	13	213	115	4	19	23	-	-	-	383	4	-	-	7740	11	18	387
	00	239	15	71	9	2	15	-	-	-	340	4	3	4	7020	7	15	351
D	88	38	9	-	-	-	-	-	-	-	37	-	4	6	3133			47
	95	8	30	13	-	5	9	-	-	-	39	-	-	26	1300			65
	00	22	66	121	10	5	5	4	-	-	160	-	-	73	4660			233
X	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	980			49
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	1160			58

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'88	13%	.31%	05%	-49%
'95	58%	32%	05%	+10%
'00	15%	35%	13%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'88	21066	Dec:	15%
	'95	10840		12%
	'00	12100		39%

Artemisia tridentata vaseyana																		
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	95	-	1	-	-	-	-	-	-	-	1	-	-	-	20	15	7	1
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'88	00%	00%	00%	
'95	100%	00%	00%	
'00	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'88	0	Dec:	-
	'95	20		-
	'00	0		-

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Atriplex confertifolia																		
Y	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
	00	-	-	-	2	-	-	-	-	-	2	-	-	-	40			2
M	88	2	-	-	-	-	-	-	-	-	2	-	-	-	133	8	13	2
	95	16	-	-	-	-	-	-	-	-	16	-	-	-	320	16	29	16
	00	-	1	-	-	-	3	-	-	-	4	-	-	-	80	13	28	4
D	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	1	-	-	-	-	-	-	-	-	-	-	1	-	20			1
	00	6	1	2	-	1	-	-	-	-	9	-	-	1	200			10
X	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'88	00%	00%	00%	+63%
'95	00%	00%	06%	-11%
'00	19%	31%	06%	

Total Plants/Acre (excluding Dead & Seedlings)				
'88	133	Dec:		0%
'95	360			6%
'00	320			63%

Ceratoides lanata																		
Y	88	3	-	-	-	-	-	-	-	-	3	-	-	-	200			3
	95	2	-	-	-	-	-	-	-	-	2	-	-	-	40			2
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	95	10	3	1	-	-	-	-	-	-	14	-	-	-	280	10	10	14
	00	-	-	4	-	1	-	-	-	-	4	1	-	-	100	3	3	5
D	88	1	-	-	-	-	-	-	-	-	1	-	-	-	66			1
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	-	-	-	-	1	-	-	-	-	-	-	-	1	20			1

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'88	00%	00%	00%	+17%
'95	19%	06%	00%	-63%
'00	33%	67%	17%	

Total Plants/Acre (excluding Dead & Seedlings)				
'88	266	Dec:		25%
'95	320			0%
'00	120			17%

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Chrysothamnus nauseosus graveolens																		
Y	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	3	-	-	-	-	-	-	-	-	3	-	-	-	60			3
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	95	12	-	-	-	-	-	-	-	-	12	-	-	-	240	9	11	12
	00	1	-	-	-	-	-	-	-	-	-	1	-	-	20	11	6	1
D	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	-	-	1	-	-	-	-	-	-	-	-	-	1	20			1

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'88	00%	00%	00%	
'95	00%	00%	00%	-87%
'00	00%	50%	50%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'88	0	Dec:	0%
	'95	300		0%
	'00	40		50%

Chrysothamnus viscidiflorus viscidiflorus																		
S	88	1	-	-	-	-	-	-	-	-	1	-	-	-	66			1
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	2	-	-	-	-	-	-	-	-	2	-	-	-	40			2
Y	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	2	-	-	-	-	-	-	-	-	2	-	-	-	40			2
M	88	1	-	-	-	-	-	-	-	-	1	-	-	-	66	3	2	1
	95	7	-	-	-	-	-	-	-	-	7	-	-	-	140	6	7	7
	00	5	-	-	-	-	-	-	-	-	3	2	-	-	100	2	7	5
D	88	1	-	-	-	-	-	-	-	-	1	-	-	-	66			1
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	6	-	-	-	-	4	-	-	-	-	-	-	10	200			10
X	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'88	00%	00%	00%	+ 6%
'95	00%	00%	00%	+59%
'00	00%	24%	59%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'88	132	Dec:	50%
	'95	140		0%
	'00	340		59%

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Gutierrezia sarothrae																		
S	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	19	-	-	-	-	-	-	-	-	19	-	-	-	380			19
	00	3	-	-	-	-	-	-	-	-	3	-	-	-	60			3
Y	88	1	-	-	-	-	-	-	-	-	1	-	-	-	66			1
	95	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
	00	5	-	-	1	-	-	-	-	-	6	-	-	-	120			6
M	88	3	-	-	-	-	-	-	-	-	3	-	-	-	200	5	5	3
	95	10	-	-	1	-	-	-	-	-	11	-	-	-	220	7	6	11
	00	76	-	-	2	-	-	-	-	-	78	-	-	-	1560	3	5	78
X	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	40			2

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'88	00%	00%	00%	-10%
'95	00%	00%	00%	+86%
'00	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'88	266	Dec:	-
	'95	240		-
	'00	1680		-

Opuntia spp.																		
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	95	3	-	-	-	-	-	-	-	-	3	-	-	-	60	6	10	3
	00	2	-	-	-	-	-	-	-	-	2	-	-	-	40	-	-	2

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'88	00%	00%	00%	
'95	00%	00%	00%	-33%
'00	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'88	0	Dec:	-
	'95	60		-
	'00	40		-

Pediocactus simpsonii																		
Y	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	4	-	-	-	-	-	-	-	-	4	-	-	-	80			4
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	95	2	-	-	-	-	-	-	-	-	2	-	-	-	40	0	1	2
	00	7	-	-	1	1	-	-	-	-	9	-	-	-	180	1	2	9

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'88	00%	00%	00%	
'95	00%	00%	00%	+85%
'00	08%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'88	0	Dec:	-
	'95	40		-
	'00	260		-

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Pinus edulis																		
S	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	-	-	-	1	-	-	-	-	-	1	-	-	-	20			1
Y	88	2	-	-	-	-	-	-	-	-	2	-	-	-	133			2
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	5	-	-	-	-	-	-	-	-	5	-	-	-	100			5

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor
'88	00%	00%	00%
'95	00%	00%	00%
'00	00%	00%	00%

%Change

Total Plants/Acre (excluding Dead & Seedlings)				
	'88	133	Dec:	-
	'95	0		-
	'00	100		-